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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,475	07/07/2003	Vincent Dupaquis	ATM-214	9328
3897	7590	05/16/2007		
SCHNECK & SCHNECK			EXAMINER	
P.O. BOX 2-E			MAI, TAN V	
SAN JOSE, CA 95109-0005				
			ART UNIT	PAPER NUMBER
			2193	
			MAIL DATE	DELIVERY MODE
			05/16/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/615,475

Applicant(s)

DUPAQUIS ET AL.

Examiner

Tan V. Mai

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2193

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-7 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Rejection grounds continue to be those set forth in the previous office action (Paper dated 10/13/06, paragraph 1).

2. Applicants' arguments filed on 2/28/07 have been fully considered but they are not persuasive.

Applicants, in their remarks, argue that:

"[t]he claimed method implemented in the multiplication circuit hardware provides a useful, concrete and tangible result possessing real world value, The multiplication circuit performs its claimed computation with far fewer memory accesses over that of other multiplication circuits (including the three Cited in the Office action) . It provides a tangible: result that can be stored physically in memory, which can then be accessed for further use. One exemplary use for the claimed method mentioned in the .generally .require that computations be performed upon very wide operands for adequate security (typically at least 256 bits for symmetric cryptosystems or at least 1024 bits for public-key cryptosystems) ~ much wider than the physical computation hardware, where the message blocks cryptographic keys, and other cryptographic data are treated by the hardware performing the cryptographic application as if they were numeric values. Cryptographic applications tend to be so computationally intensive, involving, for example, polynomial arithmetic upon very large integer values: that any improvement in efficiency and speed: of the computations have very real utility. The present invention offers such an improvement since each memory access whether mo load an. operand segment or store accumulated results, requires one cycle of time over and above the time required for the multiplying and accumulating by the multiplication circuit and accumulator hardware~ Fewer memory 5ccesses (a physical operation), means a more efficient and faster computation Overall by the hardware." (emphasis added).

With respect to the argument, the examiner carefully reviews Applicant's claimed invention. It is noted that applicant hasn't pointed out how/why the claim produces a **useful, concrete, and tangible result**. If the claim as a whole is reasonably interpreted as just solving a mathematical algorithm rather than reciting a practical application of the algorithm which produces a **useful, concrete and tangible result**, then it would be non-statutory. It would appear to be **concrete** and **tangible** in the context of the claim; however, the **useful** result appears lacking. Therefore, the rejection is still proper.

3. Claims 1-7 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 101 set forth in this Office action.

4. The following is an examiner's statement of reasons for allowance: the recorded references do NOT teach or suggest the method of operating a multiplication circuit / multiplication circuit includes: (1) the accumulator has a size of "three words plus a number of carry bits" and (2) stores accumulated results "back into the memory at least after accumulating all intermediate products of the specified weight" features as recited in independent claims 1 & 8.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726. The examiner can normally be reached on Mon-Wed and Fri. from 9:30am to 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An, can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is:

Official (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.



Tan V. Mai  
Primary Examiner